PART I-REMARKS AND ARGUMENTS

Claim Rejections Section 102

Claims 1-12, 14 and 16 have been rejected under section 102 as being anticipated by Mohan. The rejection is traversed for the following reasons.

As amended, independent claims 1, 4, 7, 8, 12, and 16 and moreover every claim in the application recites an aspect of the invention in which the controller's heading is determined and using the heading of the controller and the position information of the controller and the rover, a bearing from the controller to the rover relative to the heading and position of the controller is determined, and a bearing line of the rover relative to the controller's heading and position can be displayed.

To perform this calculation and display it is not enough to know the position insofar as determined by Mohan of each of the controller and rover. In addition, the heading of the controller must be known. Then it is possible to provide a bearing from the controller to the rover relative to the controller's heading and position. Consequently the bearing line is determined as the angle between the controller's heading and the bearing to the rover from the controller. It is an element of the present invention to use both the heading of the controller and the relative positions of the rover and the controller to obtain the bearing from the controller to the rover relative to the controller's heading and position.

Mohan does not teach a system or method as in the present claims. In one particular Mohan does not teach obtaining position information of the rover and the controller and the heading of the controller and, using that information, calculating the bearing of the rover from the controller relative to the heading and position of the controller, and enabling display of a bearing line from the controller to the rover relative to the heading and position of the controller.

At C6L30-42 and figure 4 Mohan refers to a display of the position of the remote module 100 as depicted by the symbol 352. This display is in some undefined coordinate system which appears to be a compass rose possibly with 0 indicating North. But this is a guess as Mohan does not describe this coordinate system. Mohan then says that with the addition of an optional GPS

receiver 360, the display 350 may be used to show the position of both the module carried by the item or individual to be located and the position of the portable locating unit 300 in physical relationship with respect to one another. Mohan does not illustrate this but it can be inferred that a second target would be placed on the coordinate system. This would be the well-known display of relative position in a coordinate system of two units each having a positioning system. Also at C7L3-14 Mohan explains that in the event that the portable unit also includes a geographic positioning subsystem and suitable display, the position of both the individual 400 and the mobile locating unit 420 may be simultaneously displayed with their positions relative to one another so as to indicate the progress made in closing the gap between the individual 400 being tracked and the mobile locating unit 420. This clearly proposes to display two targets on some undefined coordinate system using GPS information.

Mohan does not describe the presently claimed system or method in which the controller's position information and heading and the rover's position information are used to find the bearing from the controller to the rover relative to the controller's position and heading. This allows the user to find the rover by going in the direction of the bearing line. No navigation or map reading skill or additional navigation computation is needed.

The Examiner rejected claim 2 as being anticipated by Mohan on the basis that Mohan Fig 5 shows the tracking unit 400 and locating unit 420 in communication with at least one common GPS satellite 402 - the Examiner notes that the unit will receive GPS data from any GPS satellites that in view to both. This rejection is traversed.

The reasons given above respecting claim 1 are applicable.

Further, claim 2 claims that the rover and the controller use a common set of GPS satellites. It is submitted that the Examiner has read into Mohan the content of this claim where in fact it is not there. Mohan does not teach use of a common set of satellites. In fact, at C6L46-50 Mohan proposes that "Assuming that the miniaturized model is affixed to an individual 400 being abducted, geographic positioning information is downloaded and received from one or more GPS satellites 402". A single satellite is insufficient without additional input to provide a location. Mohan does not seem to appreciate how the GPS system works; he proposes that as the individual 400 moves "new geographic fixes are downloaded and maintained". The GPS system does not provide geographic fixes. It provides pseudorange and other signals from which, using a plurality of satellites, a position in space can be calculated and then applied to a coordinate system such as a map. Further, the Examiner's inference from Fig 5 is not warranted.

First it is noted that given reception by the controller and the rover from several satellites the following conditions can be present:

1. Each receives only the same GPS satellites as the other.

2. Each receives all of the satellites the other receives plus one or both of them receives additional satellites not received by the other. That is the received satellite suites are not the same.

3. Each receives some but not all of the satellites received by the other.

4. Each receives some but not all of the satellites received by the other plus one or both of them receives other satellites.

5. They receive a suite of satellites that includes none of the satellites received by the other.

The present invention as claimed in claim 2 is operable in conditions 1-4 and operates with position data only from the commonly received satellites. Satellites that are received by the rover and the controller but which are outside the common suite are not used for the calculations. Use of a common suite provides especially greater position accuracy, referred to as high accuracy. When a common suite is used to obtain the bearing line, especially in cases where the rover and controller are close (such as up to a few miles) the increased accuracy can allow the user of the controller to very accurately get to the rover.

The primary failure of the Mohan system to provide a relative location that generally results in a pair of locations that achieve a performance advantage over standard absolute positioning is that there is no teaching or suggestion for commonality between the two GPS units.

Mohan has no appreciation for the concept of a commonly received suite of satellites sufficient to provide high accuracy position, and relative position.

The Examiner rejected claim 3 on the basis that the controller unit is equipped with a compass to provide heading of the controller unit and to allow display of relative bearing to the rover. The Examiner asserts that Mohan at C6L62 to C6L17 teaches the system can display the mobile controller in relation to the rover while figure 4, 350 shows the rover 352 in relation to the mobile controller and its relative bearing directing attention to upper-right and lower-left portion of 350 which gives a "digital compass heading". This rejection is traversed.

The comments above with respect to claim 1 are applicable. Nowhere does Mohan mention a compass. In the present invention the heading of the controller is required. One way to get this is by a compass (it should be noted that modern references to a "compass" will usually include or be

limited to electronic compasses including those that operate in the binary or digital domain). Fig 4 of Mohan shows latitude and longitude of the target 352 in the upper-right and "Vel: 26/km/hr" which is presumed to be speed and "@ 22 deg." whose meaning is not explained. Mohan does not provide sufficient information to support the Examiner's conclusion that this is a relative bearing or that it gives a "digital compass heading". Mohan does not in figure 4 show the rover in relation to the controller. Mohan does propose to place the location of the portable unit 300 on the display, but this is not what is claimed.

The Examiner rejected claim 4 on the basis that Mohan teaches a system for locating on demand a rover unit relative to a mobile controller unit. This rejection is traversed. The comments above with respect to claim 1 are applicable.

The Examiner rejected claim 5 on the basis that Mohan teaches the system of claim 4 in which the radio positioning module is a GPS module. This rejection is traversed. The comments above with respect to claim 1 are applicable.

The Examiner rejected claim 6 on the same basis as claim 3. This rejection is traversed. The comments above with respect to claim 1 and claim 3 are applicable.

The Examiner rejected claim 7 on the basis that Mohan teaches a system for locating and tracking at least one rover unit from a mobile controller unit. This rejection is traversed. The comments above with respect to claim 1 are applicable.

The Examiner rejected claim 8 on the basis that Mohan teaches a system for locating on demand a rover unit relative to a mobile control unit. This rejection is traversed. The comments above with respect to claim 1 are applicable.

The Examiner rejected claim 10 on the basis that Mohan teaches claim 9 in which the radio positioning system is the GPS or any other satellite radio positioning system. Claim 9 has been cancelled and claim 10 depends now from claim 8. This rejection is traversed for the reasons given above with respect to claim 1.

The Examiner rejected claim 11 on the basis that Mohan teaches use of a commonly used suite of GPS or other system's satellites to provide relative spatial position. This rejection is traversed for the reasons given above with respect to claim 1 and claim 2.

The Examiner rejected claim 12 on the basis that Mohan teaches the claimed method for locating a rover unit from a mobile controller unit. This rejection is traversed. The comments above with respect to claim 1 are applicable. In particular, after comparing the rover's radio position information with the controller's radio position information to calculate relative spatial

position quantities of the controller and the rover unit the method comprises determining the heading of the controller unit and calculating the bearing from the controller unit to the rover unit relative to the position and heading of the controller unit and displaying a bearing line from the controller unit to the rover unit relative to the position and heading of the controller unit.

The Examiner rejected claim 14 on the basis that Mohan teaches the method of claim 12 in which the radio positioning receivers track a satellite radio positioning system. This rejection is traversed for the reasons given above with respect to claim 1 and claim 12.

The Examiner rejected claim 16 on the basis that Mohan teaches that the mobile controller unit can process the radio position information to provide relative spatial relationship of the mobile controller unit to the rover unit with periodic updates and displaying the relative spatial relationship on one or more displays associated with the mobile controller citing C6L62 to C6L17 and figure 4, 350. This rejection is traversed. The comments above with respect to claim 1 are applicable. In addition, there is no mention in Mohan of the use of periodic updates. This cited recitation in Mohan proposes a display "so as to indicate the progress made in closing the gap". But Mohan does not say that this is done by periodic updates of position information. There are other ways such as manual estimation from the data given to indicate progress. Mohan does not teach the claimed "periodic updates".

Claim Rejections Section 103

These comments are in general applicable to all of the section 103 rejections. The Examiner has not made a rigorous application of the *Deere* factors. This will be addressed as applicable in the response below. Also, the Examiner has not identified the requisite motivation or suggestion required for the combination of references as required by *In re Dembiczak*, 50 USPQ2d 1614 (Fed. Cir. 1999) which states:

> Our case law makes clear that the best defense against the subtle of powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for showing of the teaching or motivation to combine prior art references.
>
> Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability - the essence of hindsight.

> In other words, the Board [here the Examiner] must explain the reasons one of ordinary skill in the art would have been motivated to select the references and combine them to render the claimed invention obvious (citing *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998))

Claim 13 and 15 were rejected under section 103 as being unpatentable over Mohan as applied to claim 12 and further in view of Sheynblat. This rejection is traversed.

Claim 12 has been amended as noted above to recite "determining the heading of the controller unit and calculating the bearing from the controller unit to the rover unit relative to the position and heading of the controller unit; and displaying a bearing line from the controller unit to the rover unit relative to the position and heading of the controller unit on a display associated with the mobile controller unit". The above comments with respect to claim 1 and claim 12 are applicable to this rejection.

Claim 13 has been amended to delete "carrier phase" because it is understood that carrier phase information is inherent in pseudorange information. Claim 13 has also been amended to specify that both relative spatial position and bearing are determined using the information from a common suite of satellites. The term "common suite" is preferred over "commonly tracked" but the intended meaning is the same.

Sheynblat mentions the use of pseudorange and carrier phase measurements to provide a directional indicator. The use of GPS received data for directional indication, such as heading is known. The present invention can obtain heading of the controller by various means including use of GPS pseudorange signals by Doppler or phase rate change. An electronic digital compass can also be used. To get heading from the GPS satellites the controller must be moving.

Consequently, claim 13 covers the use of GPS pseudorange information for performing the method of claim 12 but with the further limitations that the radio positioning information is GPS pseudorange information and the relative spatial position and bearing are determined using the information from a common suite of satellites.

It is submitted that the Examiner's use of the Sheynblat teaching is incorrect because Sheynblat where referenced only relates to use of pseudorange and carrier phase for direction. But the Examiner's combination of Sheynblat with Mohan does not result in the claimed invention, as described above. The claim as amended requires that heading of the controller be obtained. Mohan

makes no reference to this and it would seem to be irrelevant to his proposed use of a relative position indicator which is nothing more than two points or targets on a map or other coordinate system.

The Examiner has also not shown the requisite teaching of motivation or suggestion to make the combination as described of Mohan and Sheynblat. This is because there is no suggestion in Mohan or Sheynblat to employ direction indication in Mohan. Moreover, any combination of Mohan or Sheynblat fails to provide for use of position and heading of controller and position of the rover to obtain the bearing from the controller to the rover relative to the position and heading of the controller.

Sheynblat and Mohan have also been combined to reject claim 15 under section 103. This rejection is also traversed for the reasons given above. Claim 15 has been amended so that it now simply recites using a compass to obtain the heading of the controller unit. It is submitted that the Examiner's understanding that Mohan teaches that the system can display a relative bearing is incorrect; Mohan only teaches the possibility of relative position.

The Examiner rejected claims 17 and 19 as being unpatentable over Mohan in view of Darnell. This rejection is traversed. The comments above with respect to claim 1 are applicable because as amended claim 17 recites obtaining heading of the controller unit and displaying a bearing line showing the location of the rover unit relative to the position and heading of the mobile controller unit as well as a map showing the location of both the mobile controller unit and the rover unit.

In this rejection, referring to claim 17, the Examiner has proposed that the claim is shown by Mohan except that it does not show a map showing the location of both the mobile controlled unit and the rover unit. The Examiner cites Darnell as teaching a position locating system that displays the location of a roving unit on a display map. Darnell at Fig 2 and at C3L16-19 simply indicates that the appropriate latitude and longitude location of the remote unit can be shown on a display map. If anything is suggested for a combination of Darnell with Mohan it would simply convert the display of Mohan's Fig 4 to a map with the remote module 352 shown on the map. But this combination does not reach the present claims.

For claim 19 the comments above are applicable in that Mohan does not teach how to find the "@22 deg." or what it means and in any event it is only applicable to the remote module 352 in some unexplained coordinate system.

The Examiner rejected claim 18 as being unpatentable over Mohan in view of Darnell as

applied to claim 17 and further in view of Kass. This rejection is traversed. The above comments are applicable. Claim 18 includes determining (the relative spatial relationship also having been determined) the bearing from the mobile controller unit to the rover unit relative to the heading and position of the mobile controller unit and allowing the user to select displaying a bearing line showing the location of the rover unit relative to the position and heading of the mobile controller unit or a map showing the location of both the mobile controller unit and the rover unit and further displaying one or more of:

the speed of movement of the rover unit;

the distance of the rover unit to the mobile controller unit;

the altitude of the rover unit relative to the mobile controller unit;

a map display showing the location of the rover unit and trail indicia showing a history of the location of the rover unit over a specified period of time;

geographical coordinates of the rover unit.

The Examiner has rejected claims 20 and 21 as being unpatentable over Mohan in view of Darnell and further in view of Layson. This rejection is traversed. The above comments are applicable.

Claim 20 as amended recites obtaining a heading of a mobile controller unit and displaying on one or more displays an arrow showing the bearing line direction of the location of the rover unit relative to the position and heading of the mobile controller unit and the speed of movement of the rover unit relative to the controller unit and a map display showing the location of the rover unit and of the controller unit.

Layson at C7L55-60 simply states that the tracking device 10 transmits location, health and status to the central database system 122 at defined intervals. Claim 20 recites that the rover unit continues to respond periodically to the query with new radio positioning information. This feature will allow the user of the controller to move toward the rover even if the rover is also moving because an updated bearing and bearing line will be periodically available to the controller. None of the references teach or suggest or make obvious the use of a bearing line from the controller to the rover relative to the heading and position of the controller. And consequently updating that bearing information and providing it to the controller under the dynamic conditions of movement of both the controller and the rover is not obvious.

Claim 21 recites providing by an optional selection on a map display showing the location of the rover unit also showing a series of indicia showing a history of the location of the

rover unit. As cited by the Examiner Layson at C8L54-58 provides that when the tracking device 10 is in passive mode it will download location movement history at one or more predetermined times of day significantly reducing the power consumed in active mode when the frequent periodic heartbeat updates are performed multiple times per hour. This recitation does not refer to the ability to show a series of indicia showing a history of the location of the rover unit.

The Examiner rejected claim 22 over Mohan in view of Darnell and Layson. Claim 22 recites the use of a common suite of GPS satellites. This rejection is traversed for the same reasons recited above with respect to use of a common suite of GPS satellites.

Amendments to the Specification

The following amendments have been made to the specification. These amendments mostly correct typographical errors but where otherwise an explanation is provided:

Page 3 line 33 "cancelable" is changed to --concealable--.

Page 4 line 26 change "As is well known, GPS can only provide heading when the receiver is moving and receives sequential movements from the GPS satellites." to --As is well known, GPS can only provide heading when the receiver is moving.--. This change is intended to clarify the ability to obtain heading from GPS signals. Heading can be obtained from sequential GPS position information where the receiver has moved or from a single reception event using pseudorange phase rate (also called Doppler analysis). In any case the receiver must be moving or have moved.

Page 4 line 30 "it's" is changed to --its--.

Page 7 line 30 "start" is changed to --START--.

Page 7 line 32 "AND" is changed to --and--.

Page 8 line 7 "home" is changed to --HOME--.

Page 8 line 10 "92" is changed to --102--.

Page 8 line 32 changed to read --the user now selects HOME 122--.

Page 8 line 33 changed to read --MEMORY 120, or GO, 116--.

Page 9 line 4 changed to read --FIND DETAIL screen 130--.

Page 9 line 6 "132" is changed to --134--.

Page 9 line 7 "134" is changed to --136-- and "136" is changed to --138-- and "138" is changed to --140--.

Page 9 line 8 "140" is changed to --142-- and "142" is changed to --144-- and

"144" is changed to --146-- and "146" is changed to --148--.

Page 9 line 9 "148" is changed to --150-- and "150" is changed to --152--.

Page 9 line 10 "geographical coordinates screen" is changed to --location data window-- and "152" is changed to --154--.

Page 9 line 11 "154" is changed to --156-- and "142" is changed to --144--.

Page 9 line 12 after "arrow", --156-- is inserted.

Page 9 line 14 add the words --or radio position information such as GPS information to determine its heading--.

Page 9 line 15 "140" is changed to --142--.

Page 9 line 16 "142" is changed to --144--.

Page 9 line 17 "154" is changed to --156--.

Page 9 line 19 "144" is changed to --146-- and "150" is changed to --152--.

PART II - COMPLETE LISTING OF CLAIMS [37 CFR 1.121]

Claim 1 (currently amended). A system for locating and tracking at least one rover unit from a mobile controller unit comprising;

a mobile controller unit comprising;

a cellular telephone module;

a GPS receiver/processor module;

a specially programmed computer;

a display;

a power source;

a rover unit comprising;

a cellular telephone module;

a GPS receiver/processor module;

a specially programmed computer;

a power source;

the mobile controller unit being programmed to have a find feature which includes selection of a command to establish a radio communication link with the rover and to obtain the rover's position information from the rover's ~~radio positioning~~ GPS receiver/processor module and, using the controller unit's position information from its GPS receiver/processor, to calculate the relative spatial position of the controller and the rover ~~in a suitable coordinate system~~ and the controller unit being further equipped to obtain its heading and programmed to use the heading to calculate ~~upon command~~ the ~~relative spatial position having the controller as center~~ bearing to the rover relative to the controller's heading and position and is programmed to calculate absolute positions of the controller and the rover on a map whereupon the selected one of ~~the relative spatial positions~~ a bearing line to the rover relative to the controller's heading and position or the absolute map positions of the controller and the rover are available to be displayed on the display upon selection by the user.

Claim 2 (currently amended). The System of Claim 1 in which the controller unit and the rover unit use a ~~commonly tracked~~ common suite of GPS satellites.

Claim 3 (currently amended). The ~~systems~~ system of Claim 1 in which the controller unit is equipped with a compass to ~~provide~~ obtain heading of the controller unit and to use the heading so provided to calculate and to allow display of ~~relative~~ the bearing to the rover unit.

Claim 4 (currently amended). A system for locating on demand a rover unit relative to a mobile controller unit comprising;

a mobile controller unit ~~having~~ comprising a radio positioning receiver; a radio communications module and a control system including a specially programmed computer for sending instructions to a rover unit and for processing data received from its own and a rover's a radio positioning module and is equipped to obtain its heading

at least one rover unit ~~having~~ comprising a radio positioning module, a radio communications module; a control system for receiving instructions from a controller unit ~~and~~ for sending radio positioning data to a controller unit;

whereby the controller ~~may~~ is able to ~~display~~ obtain and process its own position and heading data and position data of the rover and ~~may~~ to display on a display associated with the controller ~~relative spatial position of~~ a bearing line to the rover relative to the heading and position of the controller ~~or absolute map position of the rover and the controller~~.

Claim 5 (currently amended). The system of Claim 4 in which the radio positioning ~~module~~ modules of the rover and the controller are ~~is a~~ GPS ~~module~~ receiver/processor modules.

Claim 6 (currently amended). The system of Claim 5 in which the controller unit is equipped with a compass to ~~provide~~ obtain heading of the controller unit and is programmed to use the heading so provided to calculate and to allow display of ~~a relative~~ the bearing to the rover unit.

Claim 7 (currently amended). A system for locating and tracking at least one rover unit from a mobile controller unit comprising;

a mobile controller unit comprising;

a radio communications module;

a radio positioning module;

a specially programmed computer;

a display;

a power source;

a rover unit comprising;

a radio communications module;

a radio positioning module;

a specially programmed computer;

~~a power source;~~

the mobile controller unit being programmed to have a find feature which includes selection of a command to establish a radio communication link with the rover and to obtain the rover's position information from the rover's radio positioning module ~~in a suitable coordinate system~~ and the controller unit being further equipped to obtain its heading and programmed to use the heading to calculate ~~upon command~~ the ~~relative spatial position having the controller as center~~ bearing to the rover relative to the controller's heading and position and programmed to calculate absolute positions of the controller and the rover on a map whereupon the selected one of a bearing line to the rover relative to the controller's heading and position ~~the relative spatial positions~~ or the absolute map positions of the controller and the rover are available to be displayed on the display upon selection by the user.

Claim 8 (currently amended). A system for locating on demand a rover unit relative to a mobile controller unit comprising;

a mobile controller unit having a radio positioning module and a radio communications module and a control system for sending instructions directly to a rover unit and for processing data received directly from a radio positioning module;

at least one rover unit having a radio positioning module, a radio communications module; a control system for receiving instructions from a controller unit and for sending data directly to a controller unit whereby upon selection by a user the controller may display position data of the rover and may make available for display a bearing line from the controller to the rover ~~relative spatial position of the rover~~ or absolute map position of the rover and the controller;

the radio communications module and control system of the mobile controller having direct communications with the control system of the same unit such that radio data sent by the rover unit

is received directly by the mobile controller unit;

whereby the controller unit receives radio positioning data from a radio positioning system and the rover unit receives radio positioning data from the same radio positioning system and the rover unit sends radio positioning data to the controller unit which compares the data to provide the relative spatial relationship of the rover unit and the controller unit and the controller unit having a means for determining its heading and for calculating the bearing from the controller unit to the rover unit relative to the position and heading of the controller unit.

Claim 9 (cancelled). The system of Claim 8 in which the controller unit receives radio positioning data from a radio positioning system and the rover unit receives radio positioning data from the same radio positioning system and the rover unit sends radio positioning data to the controller unit which compares the data to provide the relative spatial relationship of the rover unit and the controller unit and the controller unit having a means for determining its heading and for calculating the bearing from the controller unit to the rover unit.

Claim 10 (currently amended). The system of Claim ~~9~~ 8 in which the radio positioning system is the GPS or any other satellite radio positioning system.

Claim 11 (currently amended). The system of Claim 10 in which the controller unit and the rover unit use a ~~commonly tracked~~ common suite of GPS or other system's satellites ~~provide relative spatial position~~ to obtain radio positioning data.

Claim 12 (currently amended). A method for locating a rover unit from a mobile controller unit in which the rover unit and the controller unit have cellular telephones capable of intra-communication of data and each have a radio positioning receiver capable of providing it's radio position information, and the rover has a means for sending radio position information to the controller unit upon demand comprising;

opening a cellular telephone link between the controller and the rover;

starting a procedure in which the rover's radio position information is sent to the controller;

comparing the rover's radio position information with the controller's radio position information to calculate relative spatial position quantities of the controller and the rover unit;

determining the heading of the controller unit and calculating the bearing from the controller unit to the rover unit relative to the position and heading of the controller unit;

displaying a bearing line from the controller unit to the rover unit relative to the position and heading of the controller unit ~~the relative spatial position information~~ on a display associated with the mobile controller unit.

Claim 13 (currently amended). The method of claim 12 in which the radio positioning receivers are GPS receivers and the radio position information is GPS pseudorange ~~and carrier phase~~ information and the relative spatial position and bearing are ~~is~~ determined using the information from ~~commonly tracked~~ a common suite of satellites.

Claim 14 (currently amended). The method of claim 12 in which the radio positioning receivers ~~track~~ receive radio position signals from a satellite radio positioning system.

Claim 15 (original). The method of claim 13 further comprising;

~~providing a compass direction to the controller unit and displaying a relative bearing of the rover unit to the controller unit~~ using a compass to obtain the heading of the controller unit.

Claim 16 (currently amended). A method for locating a rover unit from a mobile controller unit in which the rover unit and the controller unit have radio communication capability between them such that the controller unit may upon query obtain information from the rover unit and each of the controller unit and the rover unit has a radio positioning module for obtaining radio positioning information such that radio position information of the rover unit will upon query be sent to the mobile controller unit and in which the mobile controller unit can process the radio position information to provide relative spatial relationship of the mobile control unit to the rover unit with periodic updates and displaying the relative spatial relationship on one or more displays associated with the mobile controller and the controller unit has a means for obtaining its heading, the method comprising;

the rover unit and the controller unit obtaining radio positioning information

the rover unit sending its radio positioning information to the controller unit;

the controller unit calculating the relative spatial position of the rover unit and the controller unit and the controller unit calculating its heading and the bearing from the controller unit to the

rover unit relative to the position and heading of the controller unit and displaying a bearing line from the controller unit to the rover unit relative to the position and heading of the controller unit.

Claim 17 (currently amended). A method for locating a rover unit from a mobile controller unit in which the rover unit and the controller unit have radio communication capability between them such that the controller unit may upon query obtain information from the rover unit and each of the controller unit and the rover unit has a radio positioning module for obtaining radio positioning information such that radio position information of the rover unit will upon query be sent to the mobile controller unit and in which the mobile controller unit can process the radio position information to provide relative spatial relationship of the mobile ~~control~~ controller unit to the rover unit with periodic updates , and the controller unit has a means to obtain its heading comprising;

determining the bearing from the mobile controller unit to the rover unit relative to the heading and position of the mobile controller unit;

and displaying on one or more displays associated with the mobile controller as selected by the user;

~~an arrow showing the~~ a bearing line showing ~~direction of~~ the location of the rover unit relative to the position and heading of the mobile controller unit;

a map showing the location of both the mobile controller unit and the rover unit;

~~identification data representing the rover unit~~.

Claim 18 (currently amended). The method of Claim 17 further displaying one or more of the following;

the speed of movement of the rover unit;

the distance of the rover unit to the mobile controller unit;

the altitude of the rover unit relative to the mobile controller unit;

a map display showing the location of the rover unit and trail indicia showing ~~display~~ a history of the location of the rover unit over a specified period of time;

geographical coordinates of the rover unit.

Claim 19 (currently amended). The method of Claim 17 further comprising;

providing a compass to the controller unit to enable displaying of the ~~relative~~ bearing ~~to of~~ the rover unit from ~~to~~ the controller unit relative to the position and heading of the controller unit.

Claim 20 (currently amended). A method of finding a rover unit by use of a mobile controller unit comprising;

sending a query to the rover unit by signal from a radio communication module in the mobile controller unit to a radio communication module in the rover unit;

responding to the query, from the rover unit with radio positioning information obtained from a radio positioning module in the rover unit and sent to the mobile controller unit by way of the radio communication modules in each unit;

the rover unit continuing to respond periodically with new radio positioning information;

comparing the radio position information sent to the mobile controller unit with radio positioning information received by the mobile controller unit by its own radio positioning module to determine relative spatial position and absolute map position of the rover unit;

obtaining heading of the mobile controller unit;

displaying on one or more displays;

an arrow showing the bearing line direction of the location of the rover unit relative to the position and heading of the mobile controller unit;

the speed of movement of the rover unit relative to the controller unit;

a map display showing the location of the rover unit and of the controller unit.

Claim 21 (original). The method of Claim 20 further comprising;

providing by an optional selection;

on said map display showing the location of the rover unit also showing a series of indicia showing a history of the location of the rover unit.

Claim 22 (currently amended). The method of Claim 21 wherein the radio positioning modules are GPS modules and the rover unit and controller unit use information from a common suite of GPS ~~commonly tracked~~ satellites ~~to provide relative spatial positions~~.

Claim 23 (new) The system of claim 1 in which the controller unit uses GPS information to obtain its heading.

Claim 24 (new) The system of claim 2 in which the radio position information is GPS pseudorange information.

Claim 25 (new) The system of claim 2 in which GPS pseudorange information is used to calculate the relative spatial position of the controller and the rover and the absolute map position of the controller and the heading of the controller.

Claim 26 (new). The system of claim 4 in which the controller unit is equipped to obtain and to calculate its heading from information from a radio positioning source.

Claim 27 (new). The system of claim 4 in which the controller and the rover use a common set of radio positioning sources.

Claim 28 (new). The system of claim27 in which the radio positioning modules of the controller and the rover are GPS receiver/processors.

Claim 29 (new). The system of claim 28 in which the controller uses GPS information to obtain its heading.

Claim 30 (new). The system of claim 28 in which the radio position information is GPS pseudorange information.

Claim 31 (new). The system of claim 28 in which the controller is programmed to calculate the relative spatial position of the controller and the rover and to calculate absolute positions of the controller and the rover on a map and the controller is enabled to allow selection of display of the bearing line or the absolute map positions of the controller and the rover.

Claim 32 (new). A system for locating and tracking at least one rover unit from a mobile controller unit comprising;

a mobile controller unit comprising;

a radio position receiver/processor module;

a display;

a rover unit comprising;

a radio position receiver/processor module;

a specially programmed computer that is enabled to obtain and use radio positioning information for the rover and the controller from their respective radio position receiver/processors and heading information for the controller and to calculate the bearing of the rover from the controller relative to the controller's heading and position and to display on the display a bearing line from the controller to the rover relative to the controller's heading and position.

Claim 33 (new). The system of claim 7 in which the controller and the rover use a common set of radio positioning sources.

Claim 34 (new). The system of Claim 7 in which the controller unit is equipped with a compass to obtain heading of the controller unit and is programmed to use the heading so provided to calculate and to allow display of the bearing to the rover unit.

Claim 35 (new). The system of claim 33 in which the radio positioning modules of the controller and the rover are GPS receiver/processors.

Claim 36 (new). The system of claim 35 in which the controller uses GPS information to obtain its heading.

Claim 37(new). The system of claim 35 in which the radio position information is GPS pseudorange information.

Claim 38 (new). The system of claim 35 in which the controller is programmed to calculate the relative spatial position of the controller and the rover and to calculate absolute positions of the controller and the rover on a map and the controller is enabled to allow selection of display of the bearing line or the absolute map positions of the controller and the rover.

Claim 39 (new). The system of claim 1 in which the controller is also programmed to calculate the distance from the controller to the rover and that distance is displayed at least along with the display of the bearing line.

Claim 40 (new). The system of claim 2 in which the controller is also programmed to calculate the distance from the controller to the rover and that distance is displayed at least along with the display of the bearing line.

Claim 41 (new). The system of claim 4 in which the controller is also programmed to calculate the distance from the controller to the rover and that distance is displayed at least along with the display of the bearing line.

Claim 42 (new). The system of claim 27 in which the controller is also programmed to calculate the distance from the controller to the rover and that distance is displayed at least along with the display of the bearing line.

Claim 43 (new). The system of claim 7 in which the controller is also programmed to calculate the distance from the controller to the rover and that distance is displayed at least along with the display of the bearing line.

Claim 44 (new). The system of claim 33 in which the controller is also programmed to calculate the distance from the controller to the rover and that distance is displayed at least along with the display of the bearing line.

Claim 45 (new). The system of claim 8 in which the controller unit also provides the distance from the controller to the rover for display at least along with the display of the bearing line.

Claim 46 (new). The system of claim 11 in which the controller unit also provides the distance from the controller to the rover for display at least along with the display of the bearing line.

Claim 47 (new). The method of claim 12 further comprising determining the distance from the controller to the rover and making display of the distance available either automatically with display of the bearing line, or upon selection by a user.

Claim 48 (new). The system of claim 4 in which the controller unit is equipped with a compass to obtain heading of the controller unit and to use the heading so provided to calculate and to allow display of the bearing to the rover unit.

Claim 49 (new). The system of claim 8 in which the controller unit is equipped with a compass to obtain its heading.

Claim 50 (new). The method of claim 12 further wherein the heading of the controller unit is obtained from a compass.

Claim 51 (new). The system of claim 1 in which the controller is programmed to calculate the speed of movement of the rover and to enable its display.

Claim 52 (new). The system of claim 1 in which the controller is programmed to calculate the height of the rover relative to the controller and to enable its display.

Claim 53 (new). The system of claim 1 in which the controller is programmed to calculate and equipped to give an audible announcement of the rover's bearing direction and distance from the controller.

Claim 54 (new). The system of claim 4 in which the controller is programmed to calculate the speed of movement of the rover and to enable its display.

Claim 55 (new). The system of claim 4 in which the controller is programmed to calculate the height of the rover relative to the controller and to enable its display.

Claim 56 (new). The system of claim 4 in which the controller is programmed to

calculate and equipped to give an audible announcement of the rover's bearing direction and distance from the controller.

Claim 57 (new). The system of claim 28 in which GPS pseudorange information is used to calculate the relative spatial position of the controller and the rover and the absolute map position of the controller and the heading of the controller.

Claim 58 (new). The system of claim 11 in which the controller unit uses GPS information to obtain its heading.

Claim 59 (new). The system of claim 11 in which the radio position information is GPS pseudorange information.

Claim 60 (new). The system of claim 11 in which GPS pseudorange information is used to calculate the relative spatial position of the controller and the rover and the absolute map position of the controller and the heading of the controller.

Claim 61 (new). The system of claim 7 in which the controller is programmed to calculate the speed of movement of the rover and to enable its display.

Claim 62 (new). The system of claim 7 in which in which the controller is programmed to calculate the height of the rover relative to the controller and to enable its display.

Claim 63 (new). The system of claim 7 in which the controller is programmed to calculate and equipped to give an audible announcement of the rover's bearing direction and distance from the controller.

Claim 64 (new). The system of claim 8 in which the means for calculating calculates the speed of movement of the rover and upon selection by the user the controller displays the speed of movement of the rover.

Claim 65 (new). The system of claim 8 in which the means for calculating calculates the

height of the rover relative to the controller and upon selection by the user the controller displays the height.

Claim 66 (new). The system of claim 8 in which the controller is equipped to give an audible announcement of the rover's bearing direction and distance from the controller.

Claim 67 (new). The method of claim 14 in which the rover and the controller use a common set of radio positioning sources.

Claim 68 (new). The method of claim 67 in which the satellite radio positioning system is the GPS and the rover and the controller use a common suite of GPS satellites for GPS radio position information.

Claim 69 (new). The method of claim 68 in which the GPS radio position information is GPS pseudorange information.

Claim 70 (new). The method of claim 68 in which the controller uses GPS information to obtain its heading.

Claim 71 (new). The method of claim 68 in which the heading of the controller is obtained from a compass.

Claim 72 (new). The method of claim 12 further comprising calculating the speed of movement of the rover and enabling its display.

Claim 73 (new). The method of claim 12 further comprising calculating the height of the rover relative to the controller and enabling its display.

Claim 74 (new). The method of claim 12 further comprising giving an audible announcement of the rover's bearing direction and distance from the controller.

Claim 75 (new). A method for locating a rover unit from a mobile controller unit

comprising;

the mobile controller unit obtaining its radio position information and its heading;

the rover obtaining its radio position information.

using the radio position information of the rover unit and the mobile controller unit and the heading of the mobile controller unit calculating with a specially programmed computer the bearing of the rover unit relative to the heading and position of the mobile controller unit; and

displaying a bearing line from the mobile controller unit to the rover unit relative to the heading and position of the mobile controller unit.

Claim 76 (new). The method of claim 75 further comprising obtaining GPS radio positioning information of the mobile controller unit and of the rover from the GPS.

Claim 77 (new). The method of claim 75 further comprising obtaining the radio positioning information of the mobile controller unit and of the rover from a satellite system.

Claim 78 (new). The method of claim 75 Further comprising obtaining the heading of the mobile controller unit from a radio positioning source.

Claim 79 (new). The method of claim 75 further comprising the mobile controller unit and the rover obtaining radio positioning information form a common set of radio positioning sources.

Claim 80 (new). The method of claim 75 further comprising calculating the distance from the mobile controller unit to the rover unit and enabling display of the distance.

Claim 81 (new). The method of claim 75 further comprising obtaining the heading of the mobile controller unit from a compass.

Claim 82 (new). The method of claim 75 further comprising calculating in a specially programmed computer the speed of movement of the rover unit and enabling its display on the mobile controller unit.

Claim 83 (new). The method of claim 75 further comprising calculating in a specially programmed computer the height of the rover relative to the controller and enabling its display on the mobile controller unit.

Claim 84 (new). The method of claim 75 further comprising providing an audible announcement of the rover unit's bearing direction and distance from the mobile controller unit.

Claim 85 (new). The method of claim 76 wherein the GPS radio position information of the rover unit and the controller unit is obtained from a common suite of GPS satellites.

Claim 86 (new). The method of claim 85 wherein the radio position information is GPS pseudorange information.

Claim 87 (new). The method of claim 85 wherein the heading of the controller is obtained by using GPS signals.

Claim 88 (new). The method of claim 85 further comprising using the GPS radio positioning information, calculating the distance from the mobile controller unit to the rover unit and enabling display of the distance.